Federal State Autonomous Educational Institution of Higher Education
PEOPLES' FRIENDSHIP UNIVERSITY OF RUSSIA
RUDN University

Agrarian and Technological Institute

educational division (faculty/institute/academy) as higher education programme developer

COURSE SYLLABUS

Nephrology

course title

Recommended by the Didactic Council for the Education Field of:

36.05.01 Veterinary

field of studies / speciality code and title

The course instruction is implemented within the professional education programme of higher education:

Veterinary

higher education programme profile/specialisation title

2024

1. GOALS AND OBJECTIVES OF THE COURSE

The aim of mastering the course "**Nephrology**" is to study and master the theoretical sections of nephrology, as well as to acquire in-depth knowledge on the diagnosis, treatment, prevention and rehabilitation of nephrological diseases.

2. REQUIREMENTS FOR LEARNING OUTCOMES

The implementation of the course "**Nephrology**" is aimed at creating the following competencies (parts of competencies) for students:

Table 2.1. List of competencies formed by students during the development of the course (results of the development of the course)

Competence code	Competence descriptor	Indicators of competence accomplishment (within the discipline)
PC-3	Ability to plan measures for differential diagnosis of diseases in a patient.	PC-3.1 Systematizes information about a patient's symptoms/syndromes, forms a set of preliminary diagnoses for further confirmation or refutation.
		PC-3.2 Uses a ready-made or creates a unique algorithm for differential diagnosis, taking into account the capabilities of the treatment facility.
		PC-3.3 Uses the information obtained as a result of diagnostic measures to make a final diagnosis(s) and to correct the diagnoses if necessary.
PC-5	Ability and readiness to plan and conduct necessary instrumental diagnostics of the patient's condition	PC-5.2 Selects the necessary and sufficient set of instrumental diagnostic methods to solve the problem.
		PC-5.3 He is able to conduct instrumental diagnosis of diseases in animals.
		PC-5.4 Interprets the results of the diagnosis and uses them to solve the problem.
PC-7	Ability to choose or develop a treatment plan for a patient based on the diagnosis	PC-7.1 Is able to select medications necessary to treat animals based on the principles of evidence-based medicine, taking into account the combined pharmacological effects of all prescribed medications on the body.
		PC-7.2 Able to choose the optimal method of drug administration, calculate the dose and frequency of administration, and the duration of each drug course
		PC-7.3 Is able to select non-medicinal methods, including physical therapy, to influence the body of a sick animal to

		promote its recovery and apply them to the treatment of the patient.
		PC-7.4 Is able to make a treatment plan for a patient, select criteria for monitoring its effectiveness and options for changing the treatment plan if the selected treatments are not effective.

3. COURSE IN HIGHER EDUCATION PROGRAMME STRUCTURE

The course "**Nephrology**" belongs to the part formed by the participants of educational relations of the block B1 of the Educational Program of Higher Education.

As part of the Educational Program of Higher Education, students also master other courses and /or practices that contribute to achieving the planned results of mastering the course "**Nephrology**".

Table 3.1. List of Higher Education Program components courses that contribute to expected learning outcomes

Competence code	Competence descriptor	Previous courses/modules, internships*	Subsequent courses/modules, internships*
PC-3	Ability to plan measures for differential diagnosis of diseases in a patient.	Obstetrics, gynecology and andrology Internal diseases General surgery Private Veterinary Surgery Parasitology and invasive diseases Anesthesiology, resuscitation and intensive care Dermatology Cardiology Endocrinology	Reconstructive surgery Veterinary ophthalmology Animal Dentistry Clinical internship Industrial practice Academic research practice with the preparation of a scientific qualification project Preparation for and passing the state exam
PC-5	Ability and readiness to plan and conduct necessary instrumental diagnostics of the patient's condition	Animal anatomy Instrumental diagnostic methods Anesthesiology, resuscitation and intensive care Dermatology Cardiology Endocrinology	Reconstructive surgery Veterinary ophthalmology Animal Dentistry Clinical internship Industrial practice Academic research practice with the preparation of a scientific qualification

PC-7	Ability to choose or develop a treatment plan for a patient based on the diagnosis	Veterinary pharmacology Toxicology Dermatology Cardiology Endocrinology	Clinical internship Industrial practice Academic research practice with the preparation of a scientific qualification project Preparation for and passing the state exam

(continued from above)

			project Preparation for and passing the state exam

4. COURSE WORKLOAD AND TRAINING ACTIVITIES

Course workload of the course "**Nephrology**" is 3 credits.

*Table 4.1. Types of academic activities during the period of the HE program mastering for **full-time** study*

Type of academic activities	Total academic hours	Semesters/training modules			
		9	**-**	**-**	**-**
Contact academic hours	51	51	-	-	-
including					
Lectures	17	17	-	-	-
Lab work	34	34	-	-	-
Seminars (workshops/tutorials)	-	-	-	-	-
Self-study	40	40	-	-	-
Evaluation and assessment (exam/pass/fail grading)	17	17	-	-	-
Course workload — academic hours_	**108**	**108**	**-**	**-**	**-**
Course workload — credits	**3**	**3**	**-**	**-**	**-**

5. COURSE CONTENTS

Table 5.1 Content of the course (module) by type of academic work

Modules	Content of the modules (topics)	Types of academic activities
Module 1. General issues of nephrology.	Topic 1.1. Functional morphology of the kidneys. Semiotics of kidney diseases. Assessment of the functional state of the kidneys.	Lectures, Lab work.
Module 2. Kidney diseases.	Topic 2.1. Glomerulonephritis, pyelonephritis, kidney damage in metabolic diseases.	Lectures, Lab work.

	Topic 2.2. Secondary nephropathies, congenital and hereditary nephropathies.	Lectures, Lab work.

6. COURSE EQUIPMENT AND TECHNOLOGY SUPPORT REQUIREMENTS

Table 6.1. Material and technical support of the course

Classroom for Academic Activity Type	*Equipping the classroom*	**Specialized educational/laboratory equipment, software and materials for the development of the course** (if necessary)
Lecture	An auditorium for conducting lecture-type classes, equipped with a set of specialized furniture; a board (screen) and technical means of multimedia presentations.	-
Laboratory	An auditorium for laboratory work, individual consultations, routine monitoring and interim certification, equipped with a set of specialized furniture and equipment.	-
Self-studies	An auditorium for independent work of students (can be used for seminars and consultations), equipped with a set of specialized furniture and computers with access to an electronic information and educational environment.	-

7. RESOURCES RECOMMENDED FOR COURSE STUDIES

Main readings:
1. Clinical diagnostics of internal non-infectious animal diseases / B.V. Usha, I.M. Belyakov, R.P. Pushkarev. - Electronic text data. - St. Petersburg : Quadro, 2020. - 487 p. : ill. - (Textbooks and manuals for higher educational institutions). - ISBN 978-5-906371-03-4
2. Infectious diseases of animals : textbook / A.A. Sidorchuk, N.A. Maksimov, V.L. Kupalnik [et al.]; edited by A.A. Sidorchuk. - 2nd ed. - Moscow : INFRA-M, 2020. - 954 p. : ill. - (Higher education. Specialty). - ISBN 978-5-16-010419-5

Additional Readings:
1. Infectious diseases of animals : a textbook for universities / Edited by A.A.Kudryashov, A.V.Svyatkovsky. - St. Petersburg: Lan, 2007. - 608 p. : ill. - (Veterinary medicine). - ISBN 978-5-8114-0710-1
2. Clinical diagnostics of internal non-infectious animal diseases / B.V. Usha, I.M. Belyakov, R.P. Pushkarev. - Electronic text data. - St. Petersburg : Quadro, 2020. - 487 p. : ill. - (Textbooks and manuals for higher educational institutions). - ISBN 978-5-906371-03-4

Internet sources

1. Electronic libraries (EL) of RUDN University and other institutions, to which university students have access on the basis of concluded agreements:
- RUDN Electronic Library System (RUDN ELS) http://lib.rudn.ru/MegaPro/Web
- EL "University Library Online" http://www.biblioclub.ru
- EL "Yurayt" http://www.biblio-online.ru
- EL "Student Consultant" www.studentlibrary.ru
- EL "Lan" http://e.lanbook.com/
- EL "Trinity Bridge"

 2.*Databases and search engines:*
- electronic foundation of legal and normative-technical documentation http://docs.cntd.ru/
- Yandex search engine https:// www .yandex.ru/
- Google search engine https://www.google.ru/
- Scopus abstract database http://www.elsevierscience.ru/products/scopus/

Educational and methodological materials for independent work of students during the development of the course/ module*:
1. A course of lectures on the course "**Nephrology**".
2. Laboratory workshop on the course "**Nephrology**".
   * - The training toolkit and guidelines for the internship are placed on the internship page in the university telecommunication training and information system under the set procedure.

8. ASSESSMENT TOOLKIT AND GRADING SYSTEM* FOR EVALUATION OF STUDENTS' COMPETENCES LEVEL AS COURSE RESULTS

The assessment toolkit and the grading system* to evaluate the level of competences (competences in part) formation as the course results are specified in the Appendix to the course syllabus.

* The assessment toolkit and the grading system are formed on the basis of the requirements of the relevant local normative act of RUDN University (regulations / order).

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